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MONTANA LUMBER PRODUCTION, 1956

by

Alvin K. Wilson

Division of Forest Economics

INTERMOUNTAIN FOREST & RANGE EXPERIMENT STATION
Forest Service
U. S. Department of Agriculture
Ogden, Utah
Reed W. Bailey, Director

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HIGHLIGHTS

Lumber production by Montana sawmills reached the highest volume on record with a total production of 981,026,000 board feet in 1956, according to a survey recently completed by the Intermountain Forest and Range Experiment Station of the Forest Service, U. S. Department of Agriculture, in cooperation with the Bureau of the Census, U. S. Department of Commerce. Compared to figures released in the 1954 Census of Manufactures,[1/] this represents an increase of 33 percent.

Western Montana[2/] mills produced more than 93 percent of all lumber sawed in 1956, and eastern Montana mills produced nearly 7 percent.

Missoula County, with nearly 26 percent of the State's total production, led all counties but was closely followed by Lincoln County with 24 percent and Flathead County with 21 percent. Together, these three counties produced 71 percent of all the lumber turned out by Montana's mills in 1956.

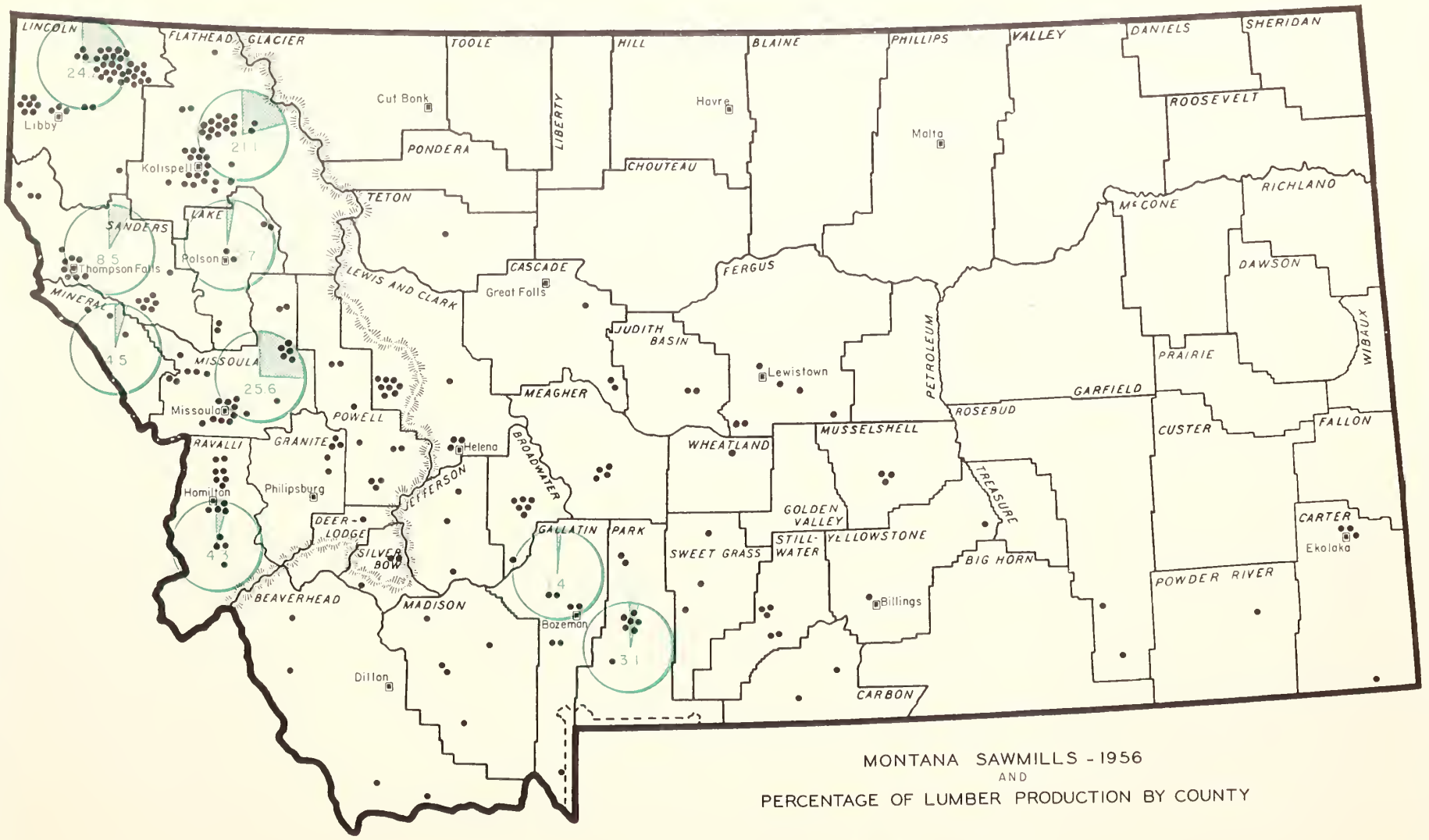
Engelmann spruce led all species with nearly 35 percent of the State's total lumber production, and was followed by Douglas-fir (24 percent), ponderosa pine (16 percent), and western larch (15 percent). Production of spruce lumber, which in 1954 comprised 25 percent of the total, was 82 percent higher than the amount produced in 1954, and reflects the intensive efforts of Montana's operators to harvest beetle-killed spruce timber.

Two-thirds of the State's production was turned out by mills having an annual capacity of 10 million board feet or more, and more than 77 percent was produced by mills having capacities for 5 million board feet or more per year. The survey indicates that 333 sawmills were active for all or part of the year.

1/ When this report was prepared, published Census figures for 1955 were not available, but it is understood that Census estimates will show 1955 production intermediate between 1954 and 1956.

2/ West of the Continental Divide (see fig. 1).

FIGURE 1.



MONTANA SAWMILLS - 1956
AND
PERCENTAGE OF LUMBER PRODUCTION BY COUNTY

LEGEND

14.1 — Sawmill reporting production in 1956
Percent of state lumber production (not shown in counties with less than 1.4 percent).
Subunit boundary (Continental Divide)

Table 2.--Montana lumber production by subunits, counties, and species, 1956

Subunit and County	Active sawmills	Lumber production by species								All species	
		Ponderosa pine	White[1] pine	Lodgepole pine	Douglas-fir	True[2] firs	Engelmann spruce	Western larch	Other[3] species	Volume	Percent
	Number	Thousands of board feet, lumber tally									
WESTERN											
Flathead	55	9,130	3,199	6,210	32,877	3,792	111,041	34,275	6,002	206,526	21.1
Granite	5	88	0	554	8,116	0	0	500	0	9,258	.9
Lake	6	2,918	62	710	7,231	100	6,795	8,107	300	26,223	2.7
Lewis & Clark[4]	10	3,977	0	173	4,427	0	337	0	0	8,914	.9
Lincoln	71	25,643	11,489	4,354	33,589	2,303	119,841	40,477	1	237,697	24.2
Mineral	3	2,964	17,610	0	4,691	1,143	15,160	2,261	758	44,587	4.5
Missoula	24	58,722	0	1,075	87,119	0	58,386	45,405	109	250,816	25.6
Ravalli	15	19,586	0	331	21,105	0	1,384	200	15	42,621	4.3
Sanders	18	22,979	5,069	0	14,779	1,306	23,232	15,511	18	82,894	8.5
Deerlodge,[4] Powell, Silverbow[4]	12	1,746	0	561	3,668	0	55	125	0	6,155	.6
Total, Western	219	147,753	37,429	13,968	217,602	8,644	336,231	146,861	7,203	915,691	93.3
EASTERN											
Broadwater	10	31	0	426	1,618	0	10	0	0	2,085	0.2
Gallatin	12	0	0	11,241	2,392	0	444	0	0	14,077	1.4
Meagher	9	1,447	0	974	3,290	8	108	0	0	5,827	.6
Park	16	0	1,496	18,198	7,862	0	2,592	0	2	30,150	3.1
Rosebud	4	3,200	0	0	0	0	0	0	0	3,200	.3
Beaverhead, Jefferson, Madison, Silverbow[4]	18	76	381	213	1,197	0	48	0	0	1,915	.2
Bighorn, Musselshell, Wheatland, Yellowstone	9	612	77	0	248	0	0	0	46	983	.1
Carbon, Stillwater, Sweetgrass	12	287	0	195	570	0	75	0	42	1,169	.1
Carter, Powder River	6	763	0	0	0	0	0	0	0	763	.1
Cascade, Fergus, Judith Basin	12	634	0	154	874	0	44	0	1	1,707	.2
Glacier, Lewis & Clark,[4] Teton	6	2,017	0	0	1,145	0	297	0	0	3,459	.4
Total, Eastern	114	9,067	1,954	31,401	19,196	8	3,618	0	[5]91	65,335	6.7
Total	333	156,820	39,383	45,369	236,798	8,652	339,849	146,861	7,294	981,026	100.0

1/ Practically all western white pine but includes small amounts of whitebark and limber pines.
2/ Includes grand fir and alpine fir.
3/ Includes approximately 5.4 million board feet of western redcedar and about 1.8 million board feet of cottonwood.
4/ The Continental Divide lies within Lewis and Clark, Deerlodge, and Silverbow counties. All production in Deerlodge county was by mills located west of the divide but production in Lewis and Clark and Silverbow counties was by mills located on both sides of the divide.
5/ Practically all cottonwood.

DETAILS

Subunits

Western Montana's 219 active sawmills cut a record 915.7 million board feet of lumber in 1956, and 114 mills in eastern Montana produced the remaining 65.3 million board feet of the State total. Western Montana has consistently produced more than 90 percent of all the lumber sawed in the State (table 1). Between 1950 and 1956, western Montana's lumber production rose 86 percent while eastern Montana's increased 51 percent.

Table 1.--Montana lumber production by subunits, 1948, 1950, and 1956[1/]

Subunit	1956		1950		1948	
	Volume	Percent	Volume	Percent	Volume	Percent
	M b.f.		M b.f.		M b.f.	
Western	915,691	93.3	492,957	91.9	571,584	95.6
Eastern	65,335	6.7	43,357	8.1	26,360	4.4
Total	981,026	100.0	536,314	100.0	597,944	100.0

1/ Data breakdown by subunits not available for intervening years.

Counties

As table 2 shows, the three leading counties--Missoula, Lincoln, and Flathead--had no close competitors in the amount of lumber produced. With 45 percent of the State's active mills, these counties accounted for 695 million board feet, or 71 percent of Montana's total output. Missoula County led all counties with its output of nearly 251 million board feet; Park County led all eastern counties with an output of 30 million board feet.

Mill Classes

Sawmills were arranged according to their annual production capacity into several classes (table 3). The 26 mills in the highest production class turned out two-thirds of the State's total output. In 1950, mills of this class accounted for less than half (48 percent) of the total production. Fifteen mills in the 5- to 10-million board feet class, all of which were in western Montana, produced nearly 11 percent of the total, as compared to more than 16 percent in 1950. Mills with annual capacities of 1 to 5 million board feet experienced an even greater decline in their percentage of the total--from 25 percent in 1950 to 16 percent in 1956. The smallest mills, with outputs of less than 1 million board feet per year, also produced a lower percentage of the lumber--less than 7 percent in 1956 as compared to nearly 11 percent in 1950.

Table 3.--Montana lumber production by subunits and mill production classes, 1956

Production class	West		East		State		
	Volume	Percent	Volume	Percent	Volume	Percent	Active mills
M b.f. per yr.	M b.f.		M b.f.		M b.f.		Number
Less than 500	11,415	1.2	10,642	16.3	22,057	2.2	189
500 - 999	36,312	4.0	6,639	10.2	42,951	4.4	40
1,000 - 4,999	139,653	15.3	16,078	24.6	155,731	15.9	63
5,000 - 9,999	106,685	11.6	0	0	106,685	10.9	15
10,000 and over	621,626	67.9	31,976	48.9	653,602	66.6	26
Total	915,691	100.0	65,335	100.0	981,026	100.0	333

For western Montana's 219 active sawmills, the average production per mill was 4.181 million board feet, while for eastern Montana's 114 active mills, the average production per mill was only 0.573 million board feet. This contrast points up not only the differences in numbers of mills but also the relative sizes of the mills in the two subunits of the State.

Species

Because such a high proportion of Montana's lumber is produced in the western subunit, the species cut in that area determine the ranking of species by importance for the State (table 4). Engelmann spruce, Douglas-fir, ponderosa pine, and western larch were the four leading species for the State as a whole and together made up 90 percent of the State's total lumber cut. But in eastern Montana, lodgepole pine accounted for nearly half of the production and was followed by Douglas-fir and ponderosa pine; these three species made up 91 percent of the subunit's production.

Until 1950, Engelmann spruce held fourth place in species importance, but advanced to first place in 1954 and 1956 (table 5). This spectacular change is due to the strenuous efforts by public agencies in cooperation with lumber companies to salvage beetle-killed spruce timber. Action on this extensive program began about 1952. The jump from fourth to first place in species rank is therefore, in a sense, a measure of the success of the salvage program.

Douglas-fir, in fourth place in 1954, became the second ranking species in 1956, while ponderosa pine, second in 1954, dropped to third place in 1956, and western larch moved from third to fourth place.

In actual volumes cut, table 5 shows that ponderosa pine and western larch have declined as lumber species since 1948 and 1950, while production of western white pine, Douglas-fir, Engelmann spruce, and lodgepole pine has increased.

Table 4.--Montana lumber production by subunits and species, 1956

Species	West		East		State	
	Volume	Percent	Volume	Percent	Volume	Percent
	M b.f.		M b.f.		M b.f.	
Engelmann spruce	336,231	36.7	3,618	5.5	339,849	34.6
Douglas-fir	217,602	23.8	19,196	29.4	236,798	24.1
Ponderosa pine	147,753	16.1	9,067	13.9	156,820	16.0
Western larch	146,861	16.1	0	.0	146,861	15.0
Lodgepole pine	13,968	1.5	31,401	48.1	45,369	4.6
White pine[1/]	37,429	4.1	1,954	3.0	39,383	4.0
True firs[2/]	8,644	.9	8	(3/)	8,652	.9
Other	4/ 7,203	.8	5/ 91	.1	7,294	.8
Total	915,691	100.0	65,335	100.0	981,026	100.0

1/ Practically all western white pine but includes small amounts of white-bark and limber pines.

2/ Includes grand fir and alpine fir.

3/ Less than 1/10 of 1 percent.

4/ Includes approximately 5.4 million bd. ft. of western redcedar and approximately 1.8 million bd. ft. of cottonwood.

5/ Practically all cottonwood.

Table 5.--Montana lumber production by species, 1948, 1950, 1954, and 1956

Species	1956	1954	1950	1948
	- - - - - Thousands of board feet - - - - -			
Western white pine	39,383	27,084	18,248	13,464
Ponderosa pine	156,820	162,665	191,686	223,569
Douglas-fir	236,798	144,730	126,379	210,896
Western larch	146,861	148,036	160,380	129,259
True firs	8,652	20,042	42	106
Engelmann spruce	339,849	186,273	35,953	16,705
Western redcedar	5,380	9,634	163	1,068
Western hemlock	1	2,785	43	196
Lodgepole pine	45,369	11,467	3,281	2,619
Cottonwood	1,871	9,203	105	60
Other	42	16,424	34	2
Total	981,026	738,343	536,314	597,944

SURVEY METHOD

The survey of Montana's 1956 lumber production was conducted in accordance with cooperative agreements between the Forest Service and the Bureau of the Census. The basic mailing list of lumber producers provided by the Bureau of the Census from the 1954 Census of Manufactures was brought up to date with the help of national forest supervisors and the State forester, and from industry directories. Inquiries were mailed to all producers on the revised list. Replies obtained from the mailed questionnaires accounted for 892 million board feet, or 91 percent of the State's total production.

Since replies had been obtained from all mills having yearly outputs greater than 5 million board feet, it was necessary to estimate annual production rates only for nonresponding mills in the following three classes: (1) those producing between 1.000 and 4.999 million board feet per year; (2) those producing 0.500 to 0.999 million board feet per year, and (3) those producing less than 0.500 million board feet per year. Estimated nonrespondent production for these three classes was based on estimates obtained through field contacts with 25, 10, and 5 percent, respectively, of the nonrespondent mills. These estimates were then added to the total reported in mailed replies to obtain the total production estimate for the State.

ACCURACY OF SURVEY

Individual production reports were obtained from 229 active mills, totaling 892,176,000 board feet, or 91 percent of the total production. An additional 88,850,000 board feet, or 9 percent of the total, was estimated for 104 active nonrespondent mills from the field sample. The error of the estimated part of the production is 20.66 percent and the sampling error for the State total is 2.29 percent.